

19981221.ba v02_n345.bam.981221 v02_n346.bam.981221

>From ???@??? Mon Dec 21 12:03:19 1998
Message-Id: <199812211318.HAA08915@sco.theporch.com>
Date: Mon, 21 Dec 1998 07:13:50 CST
Subject: BOATANCHORS digest 2345

BOATANCHORS Digest 2345

Topics covered in this issue include:

- 1) WTD: TEK P6105/6 Probes
by "Richard Solomon" <w1kszt@tiac.net>
- 2) Re: [Hallicrafters] Dry Transfer Lettering
by KA6UUP@aol.com
- 3) Need Tubes
by "James D. Mayfield" <kb9bnr@revealed.net>
- 4) Re: DX-100 audio distortion
by jim lockwood <jmlckwd@mindspring.com>
- 5) WTB BA-270 batteries
by "Owens, Clarence" <owensc@nebeng.otis.com>
- 6) WTB CWL-861, VT-19 Tube Socket
by Mikhael Brown <mikhael_brown@hp.com>
- 7) Re: DX-100 audio distortion
by Bill Hawkins <bill@iaxs.net>
- 8) FS: Clegg Collection
by "Gary F. Franklin" <franklin@net-link.net>
- 9) Free Gonset receive converters
by kf4kl@ipass.net (Doug Hall)
- 10) FS: EV-664 with 419 base
by "Gary F. Franklin" <franklin@net-link.net>
- 11) FS: NIB Eimac 4CX1500B
by "Gary F. Franklin" <franklin@net-link.net>
- 12) Need Tubes! Found
by "James D. Mayfield" <kb9bnr@revealed.net>
- 13) DX-100 Transformer?
by "James D. Mayfield" <kb9bnr@revealed.net>
- 14) Crystals for the Axis...more
by Larry Kayser <kayser@rideau.net>
- 15) RE: Tube Question
by "Ed Tanton" <n4xy@mindspring.com>
- 16) Re: DX-100 audio distortion
by "Arden Allen" <gumbear@pacbell.net>
- 17) RE: Tube Question
by "Ed Tanton" <n4xy@mindspring.com>
- 18) 17,000 + tubes for counting....
by Dexter Francis <cwest@xmission.com>
- 19) Re: Crystals for the Axis...more

by Kargokult@aol.com
20) HRO-500 (II)
by "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>
21) Re: 17,000 + tubes for counting....
by ail0@lehigh.edu (ARTHUR I. LARKY)
22) Re: 17,000 + tubes for counting...."From Dits to Bits"
by John Dilks <oldradio@worldnet.att.net>
23) Re: HRO-500 (II)
by "James C. Garland" <4CX250B@miavx1.acs.muohio.edu>

Message-Id: <199812202355.SAA28426@mail-out-3.tiac.net>
From: "Richard Solomon" <w1ksz@tiac.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WTD: TEK P6105/6 Probes
Date: Sun, 20 Dec 1998 18:51:59 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

Looking for a Tek P6015 (1X) and/or P6016 (10X) probe for
my 7704.

I have quite a few older probes that I will list as soon as I
sort them out.

73, Dick, W1KSZ

From: KA6UUP@aol.com
Message-ID: <905881f3.367d8d5b@aol.com>
Date: Sun, 20 Dec 1998 18:50:51 EST
To: Old Tube Radios <boatanchors@theporch.com>
Mime-Version: 1.0
Subject: Re: [Hallicrafters] Dry Transfer Lettering
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

Sandi,

Antique Electronic Supply has everything you need. Words (instead of just
letters and dial markings also.

As far as I know RS doesn't have anything any more

73 and seasons greetings,

Chuck

KA6UUP

Message-Id: <3.0.32.19981220182516.00c1118c@revealed.net>
Date: Sun, 20 Dec 1998 18:25:24 -0600
To: Old Tube Radios <boatanchors@theporch.com>

From: "James D. Mayfield" <kb9bnr@revealed.net>
Subject: Need Tubes
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

I am down to only one spare 5r4, I will need a pair for my DX-100 I am trying to bring back to life. If you have some you would like to sell please let me know!

73 Dave

Dave Mayfield KB9BNR
Personal Web Page
<http://home.revealed.net/qste/bnr/kb9bnr.html>

Message-Id: <3.0.32.19981220164848.006ec358@pop.mindspring.com>
Date: Sun, 20 Dec 1998 16:48:55 -0800
To: Old Tube Radios <boatanchors@theporch.com>
From: jim lockwood <jmlckwd@mindspring.com>
Subject: Re: DX-100 audio distortion
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

At 03:40 PM 12/20/98 -0600, Bill Hawkins wrote:
>When it distorts on both max and min, the source is on the push-pull side.

This makes sense to me.

>When it looks OK up/down to a certain point, that suggests overload. If
>there's no audio to speak of on the B+ or screens, how about saturation
>of the transformer.

Is there a way I can measure something to test for this?

>See if you can decrease the DC milliamps drawn by the
>modulator tubes, and does that raise the point at which distortion becomes
>visible. I mean the zero input bias current, of course.

I have experimented with this.

My old RCA power tube manual indicates that the quiescent 1625 current ought to be about 30mA per tube. So, I've varied this current up to this level and watched the resulting distortion when I apply a sinusoid.

My subjective observation is that the distortion is less when I operate right at the 30mA level. Less than this, say 15mA per tube, and the

distortion is worse..... that is, the audio component of the RF envelope looks much less sinusoidal.

More data: After my earlier posting, I looked more carefully at the waveform. To my not-very-experienced eyes, it looks like cross-over distortion. In other words, I think my original description was not accurate.

Any thoughts or comments?

73,

Jim - K4CCF

(formerly KM6NK, WA4K00, WN4K00)
Looking for original QSL cards from K4CCF

<http://www.mindspring.com/~johnmb/radiorm1.htm>

Content-return: allowed
Date: Sun, 20 Dec 1998 20:02:00 -0500
From: "Owens, Clarence" <owensc@nebeng.otis.com>
Subject: WTB BA-270 batteries
To: Old Tube Radios <boatanchors@theporch.com>
Message-id: <0F4A00EDGJ6Z5K@mailman.otis.com>
MIME-version: 1.0
Content-type: text/plain

Hi All,

I'd like to buy a couple of BA-270 batteries for my recently acquired PRC-6 radios. I realize that they're probably all no good by now, but I'd like to at least have the shells to use, to try to build new insides for them. Or at least have one battery to use as a model for a home-brew battery.

By the way, there used to be two young ladies who would show up at the AWA conference in Rochester every Sept with a U-Haul trailer load of surplus military batteries. They weren't there this year, at least on Thurs. when I was there. Do any of you know the name or contact info for a company or individual who has surplus batteries?

Merry Christmas and Happy New Year!

Clare Owens N2RJB

Message-ID: <367DA13E.135D3464@hp.com>
Date: Sun, 20 Dec 1998 17:15:42 -0800
From: Mikhael Brown <mikhael_brown@hp.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: WTB CWL-861, VT-19 Tube Socket
Content-Type: multipart/mixed;
boundary="-----8DF9736BF584D2DC1C2CC7BB"

This is a multi-part message in MIME format.

-----8DF9736BF584D2DC1C2CC7BB
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Subject says it all. I need a socket for a CWL-861 (VT-19) tube.

Building a QRP rig and need a socket for the final. Hi Hi.
Just got one of these and want to display it in the proper tube socket.

Please e-mail me if you have one to spare.

Thanks and 73's

Mike
N6WIG

-----8DF9736BF584D2DC1C2CC7BB
Content-Type: text/x-vcard; charset=us-ascii;
name="mikhael_brown.vcf"
Content-Transfer-Encoding: 7bit
Content-Description: Card for Mikhael Brown
Content-Disposition: attachment;
filename="mikhael_brown.vcf"

begin:vcard
n:Brown;Mikhael
x-mozilla-html:TRUE
org:Hewlett Packard
version:2.1
email;internet:mikhael_brown@hp.com
title:Manufacturing Development Engineer
note;quoted-printable:HP-Web: <http://hpcmmp13.sj.hp.com:800=0D=0A>
(HP internal only)
x-mozilla-cpt;;0

fn:Mikhael Brown
end:vcard

-----8DF9736BF584D2DC1C2CC7BB--

Date: Sun, 20 Dec 1998 19:22:09 -0600 (CST)
From: Bill Hawkins <bill@iaxs.net>
Message-Id: <199812210122.TAA05387@citrus.iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: DX-100 audio distortion

About the time the mail was gone, I remembered that push-pull circuits don't have DC saturation because the windings cancel the magnetization. A DC component on the single ended load side will, though, unless it is capacitively coupled(?).

More likely is that the modulation transformer doesn't have enough iron in the first place. Not something you're gonna cure by changing R and C values. Is the RF tube drawing the nominal DC current through the sec'y of the modulation transformer?

Crossover distortion is a kink in the sine wave near its center (angle is 0 or 180 degrees). Class AB amplifiers get their power from class B, but use some bias into the A region to cure crossover distortion. Try going from 30 to 45 ma quiescent. Dunno why that would help, though.

Note that there's no call next to my name. I know my way around audio amplifiers, but have very little modulation experience.

Bill

Message-ID: <367D9EB3.2B8@net-link.net>
Date: Sun, 20 Dec 1998 21:04:51 -0400
From: "Gary F. Franklin" <franklin@net-link.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: Clegg Collection
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
Content-Transfer-Encoding: 7bit

I have a collection of Clegg equipment for sale. Cosmetically all are very good to excellent, complete and unmodified. No holes, dings or dents. Just the usual paint wear on cabinets. Electrically all work. Some better than others. I would say a little TLC,

new tubes, alignment, etc. would improve the sleepy ones. The Zeus is in excellent condition and works great. It comes complete with modulator/power supply and cables. I

will not ship this rig. Willing to meet someone within 200 miles of Kalamazoo, Mi. for

delivery. I have manuals for all.

Rig	Price	Shipping
Clegg Zeus	\$400	N/A Includes Modulator/Power Supply and cable
Interceptor	\$225	\$30
Venus	\$300	\$50 Includes 416A power supply
Thor VI	\$150 ea	\$50 (2) available, Includes Modulator/Pwr Sup&cable

All prices are firm. Shipping includes packaging, I like to pack them well. Prefer Money

Order or Bank Check. First come first serve.

Thanks

Gary K8BKB

franklin@net-link.net

From: kf4kl@ipass.net (Doug Hall)
To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Subject: Free Gonset receive converters
Date: Mon, 21 Dec 1998 02:19:05 GMT
Message-ID: <367dae7e.468213150@DOUGHALL>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: quoted-printable

Hi BA folks,

I have two Gonset Super 6 receive converters to give away. One is complete, and worked last time I had it hooked up, and the other is missing a knob and I haven't tried it out. It supposedly works. I have a copy of the manual.

I'll send these to anyone who wants them for the cost of shipping from zip 27612. If more than one person wants one, I'll split 'em up.

73 and Merry Christmas,
Doug Hall, KF4KL

Message-ID: <367DA5ED.1761@net-link.net>

Date: Sun, 20 Dec 1998 21:35:41 -0400
From: "Gary F. Franklin" <franklin@net-link.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: EV-664 with 419 base
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
Content-Transfer-Encoding: 7bit

I have an EV-664 mic in excellent condition. No pitting. Complete with Amphenol connector and cable. The 419 base is in good condition. It has paint chips and a switch has been mounted on the front. You will need the connector to mount the microphone to the base. Price \$225 shipped. Prefer money order or bank check.

Thanks

Gary K8BKB

franklin@net-link.net

Message-ID: <367DA720.6AB6@net-link.net>
Date: Sun, 20 Dec 1998 21:40:48 -0400
From: "Gary F. Franklin" <franklin@net-link.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: NIB Eimac 4CX1500B
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
Content-Transfer-Encoding: 7bit

I have a NIB Eimac 4CX1500B, never used. Perfect for your 30S-1

\$300 shipped

Gary K8BKB
franklin@net-link.net

Message-Id: <3.0.32.19981220210450.00c24b04@revealed.net>
Date: Sun, 20 Dec 1998 21:04:59 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: "James D. Mayfield" <kb9bnr@revealed.net>
Subject: Need Tubes! Found
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Thanks to all who offered 5r4 tubes. Looks like I found a few. Now if someone could just come up with a high voltage transformer for the dx-100, that would be great.... I really need one.... Along with that note, has anyone ever opened one up to repair a short. Mine is shorted on the secondary....

73 Dave

Dave Mayfield KB9BNR
Personal Web Page
<http://home.revealed.net/qste/bnr/kb9bnr.html>

Message-Id: <3.0.32.19981220214947.00c25cd4@revealed.net>
Date: Sun, 20 Dec 1998 21:51:44 -0600
To: Old Tube Radios <boatanchors@theporch.com>
From: "James D. Mayfield" <kb9bnr@revealed.net>
Subject: DX-100 Transformer?
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

Anyone know if an Apache transformer will work?? as a sub for the dx-100 HV transformer?

Dave

Dave Mayfield KB9BNR
Personal Web Page
<http://home.revealed.net/qste/bnr/kb9bnr.html>

Message-Id: <2.2.32.19981221040614.01428668@rideau.net>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Date: Sun, 20 Dec 1998 23:06:14 -0500
To: Old Tube Radios <boatanchors@theporch.com>
From: Larry Kayser <kayser@rideau.net>
Subject: Crystals for the Axis...more

Hue, what is your problem? What is your point?

>

>In a message dated 98-12-20 13:09:39 EST, kayser@rideau.net writes:

>

>> Interestingly, a second level of intrigue in this work, was that certain
>> quartz crystals, not very large ones, were intentionally allowed to get to
>> the Axis, these crystals had a fault in the form of a distinctive "chirp"

>on
>> the transmitted signal and could be characterised by the Allied
>intelligence
>> services.
>
>????
>German equipment used crystal control to a much lessor extent
>than the allies, partly because of difficulty of supply, mostly just
>different design philosophy. more common was the use of quartz
>crystal for calibration purposes, or receiver IF selectivity. Japan
>had their own plentiful supply, eventually probably limited by Japan's
>economic isolation.
>
>?? faults in raw quartz blanks that caused chirp in the finished
>product?? ??that the manufacturer, inspectors, and end
>users overlooked??
>--hue miller

Rather simple really old chap. When you have almost nil supply of quartz, you take what you can get, chirp and all. There was about 20% of the small volume transmitters that had crystals, I have some samples in my collection here. The really neat ones have little knobs that change the pressure so the operator could vfo around a bit, about 5 KC max. The quartz interdiction project was well documented, if you look you will find....

Your opinion as to the impact level of supply over design philosophy is interesting, opinion is excellent but not relevant to this offering.

Merry Christmas...

Larry

From: "Ed Tanton" <n4xy@mindspring.com>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Old Tube Radios" <boatanchors@theporch.com>
Subject: RE: Tube Question
Date: Mon, 21 Dec 1998 00:23:50 -0500
Message-ID: <000c01be2ca2\$179e7fa0\$01010101@n4xy>
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Hi Dave... 5U4s will NOT handle the current a 5R4 will-and it's possible the voltage rating is higher too-though I'm not sure about the latter.

Season's Greetings to you and your family, Dave.

Ed Tanton N4XY

Message-Id: <199812210531.VAA16102@mail-gw5.pacbell.net>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: DX-100 audio distortion
Date: Sun, 20 Dec 1998 21:23:39 -0800
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

Hi Jim;

>So, what's going on here? Is this distortion just an artifact
of passing
> an audio waveform through the iron of the modulation transformer?.....

An amplifier with no distortion reducing negative feedback will display a gradually increasing percentage of distortion that, depending on the design of the amplifier, can be considerable at full power output. Considering that all components are good and bias voltage is correct, there are three faults that can contribute to excess distortion at higher power levels: 1), shorted turns in the modulation transformer; 2), excessive loading due to higher than specified loading of the RF PA (higher than nominal plate current), or; 3), the most likely problem, weak (flat) modulator tubes. Beings I'm not familiar with the specifics of the DX-100 modulator, I don't know if the design is flawed and high distortion is normal. What say DX-100 'sperts?
Happy Holidays and a BAfull New Year Jim.

Arden Allen KB6NAX Vallejo, CA gumbear@pacbell.net

From: "Ed Tanton" <n4xy@mindspring.com>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Old Tube Radios" <boatanchors@theporch.com>
Subject: RE: Tube Question
Date: Mon, 21 Dec 1998 00:30:39 -0500
Message-ID: <001201be2ca3\$0b9c32f0\$01010101@n4xy>
MIME-Version: 1.0
Content-Type: text/plain;
charset="Windows-1252"
Content-Transfer-Encoding: 7bit

Well, I'll be darned... I always thought that 5R4s were better for either

voltage or current. Learn something every day. That's probably the reason in some of the old handbook tube tx's, they used 6DE4s (I think it was) for one part of the PS, and 5R4s for another... same reason as the DX100? Thanks.

P.S. What about 5R4Ws? Heavier duty, but same ratings?

Message-ID: <367DE334.9CD4F087@xmission.com>
Date: Sun, 20 Dec 1998 22:57:19 -0700
From: Dexter Francis <cwest@xmission.com>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: 17,000 + tubes for counting....
Content-Type: text/plain; charset=us-ascii; x-mac-type="54455854"; x-mac-creator="4D4F5353"
Content-Transfer-Encoding: 7bit

Greetings all:

While it may not qualify as radio, it's got to be the Titanic of vacuum tube based equipment.

For a very educational browse and some great photos, check out the University of Pennsylvania's 50th Anniversary Exhibit on the ENIAC at:

<http://www.library.upenn.edu/special/gallery/mauchly/jwmintro.html>

I particularly like the shot of the accumulator decade plug in unit.

Does any one know exactly which types of tubes were used in these units?

-df

Looking to Buy - Sell - Trade or Swap Tubes or BA Gear?
Visit our Web Page @ <http://www.xmission.com/~cwest>

From: Kargokult@aol.com
Message-ID: <4e9ba699.367de63f@aol.com>
Date: Mon, 21 Dec 1998 01:10:07 EST
To: Old Tube Radios <boatanchors@theporch.com>
Mime-Version: 1.0
Subject: Re: Crystals for the Axis...more
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7bit

In a message dated 98-12-20 23:07:08 EST, kayser@rideau.net writes:

> Hue, what is your problem?

---i'm not certain, yet, but i'm sure it's not unique.

> What is your point?

---see below.

> >In a message dated 98-12-20 13:09:39 EST, kayser@rideau.net writes:
> >
> >> Interestingly, a second level of intrigue in this work, was that certain
> >> quartz crystals, not very large ones, were intentionally allowed to get
> to
> >> the Axis, these crystals had a fault in the form of a distinctive
"chirp"
>
> >on
> >> the transmitted signal and could be characterised by the Allied
> >intelligence
> >> services.
> >
> >????
> >German equipment used crystal control to a much lessor extent
> >than the allies, partly because of difficulty of supply, mostly just
> >different design philosophy. more common was the use of quartz
> >crystal for calibration purposes, or receiver IF selectivity. Japan
> >had their own plentiful supply, eventually probably limited by Japan's
> >economic isolation.

---*seems* to me another project with the same misguided optimistic
certitude of the "safe radiation radio receivers" project.
i'm saying, rather few german transmitters used quartz in the first place.
certainly not most mobile ones (WS30, WS100, UKwExx, 1000WS, FUG10,
FUG16).

this eliminates aircraft, radio trucks, tanks, field radios.

i'm no expert on this gear, but the only mobile stations that come to
mind are the RS20 and the SE100 series, much less common.

were the larger comm center transmitters "characterized"? as to what?
location? that much was known, or could be determined otherwise.

add to this the fact that a transmitter would not necessarily be full
breakin type, i.e. the oscillator is not keyed, hence chirp not heard.

> Rather simple really old chap. When you have almost nil supply of quartz,
> you take what you can get, chirp and all.

>There was about 20% of the small volume transmitters that had crystals,

---does this refer to agent apparatus? (an honest question.) if this is the

case, i can perhaps see a purpose to this, as another way to identify a transmitter. i'm thinking of the example of where an allied agent might be taken, and the agent forced to "play back" over his captor's transmitter.

>I have some samples in my collection
> here. The really neat ones have little knobs that change the pressure so
> the operator could vfo around a bit, about 5 KC max.

---how do the variable crystals (similar to our Bliley Vari-Crystal of prewar manufacture) relate to this issue? i would think any such variable-pressure housing crystal would tend to chirp at the extremes of its frequency range - IF the oscillator is keyed.

> The quartz interdiction project was well documented, if you look you will find....

> Your opinion as to the impact level of supply over design philosophy is
> interesting, opinion is excellent but not relevant to this offering.

---"....Nachteil jedoch die Gebundenheit an die einmal festgelegte Frequenz....

Somit liess sich ein beweglicher Funkeinsatz wie frequenzmaessiges Ausweichen bei Stoerungen, Aufnahme von Querverkehr usw. nicht durchfuehren. Ein Verwendung von Quarzen in allen neuen deutschen Geraeten war aufgrund der Rohstofflage auch nicht durchfuehrbar."

("Kleinfunksprecher der Wehrmacht", in Mittheilungen...Museum fuer Historische Wehrtechnik, Mai 1985, by Axel Schamfuss. discusses both need to have frequency variable apparatus for military operations, as well as the rawmaterial shortage disallowing a dependence on crystals. i am sure this has been documented more thoroughly elsewhere, i'm sorry but this is all i can find on hand. i believe a wartime Radio News, perhaps the Feb. 1944 on 'Enemy Equipment' may discuss the same German avoidance of using quartz for frequency control.)

---i have no doubt about the rawmaterial interdiction. i have real doubt about the value of a few tending-to-chirp quartz crystals to the allied war effort. i am saying, why not examine some of the accepted accounts of that era.

regards, hue miller

Message-Id: <3.0.1.32.19981221073417.006c0054@192.168.0.1>

Date: Mon, 21 Dec 1998 07:34:17 +0100

To: Old Tube Radios <boatanchors@theporch.com>

From: "JOSE V. GAVILA (EB5AGV/EC5AAU)" <eb5agv@ctv.es>

Subject: HRO-500 (II)

Mime-Version: 1.0

Content-Type: text/plain; charset="us-ascii"

Hello gang,

Thanks to all the people (more than a dozen!) who sent me messages about the HRO-500 I have been offered. It seems that it can be a nice buy at \$400, depending on the failure it has. Well, I have just received an e-mail from the seller, telling that the problem is lack of sensitivity... perhaps it does need just an alignment?.

I know also the serial number: 75 1257. Please, could somebody tell me which of the three series (as somebody told me) is this receiver?. Any other hint will be welcomed!. By the way, the receiver comes with the original (same S/N) manual.

Thanks again for all your help and Merry Christmas!

JOSE

PS: if you have not visited my WEB page in last few days, please, take a look at the NEWS section. Hope you enjoy it :-)!.

73 EB5AGV / EC5AAU
JOSE V. GAVILA
Ausias March 46, 15
46910 Benetusser - VALENCIA
SPAIN

*** VISIT MY VINTAGE RADIO SITE - updated 14-December-1998 ***
<http://www.geocities.com/SiliconValley/6992/>
e-mail: eb5agv@ctv.es & eb5agv@amsat.org

Message-Id: <199812210722.CAA14488@ns1-1.CC.Lehigh.EDU>
Date: Mon, 21 Dec 1998 02:22:00 EST
From: ail0@lehigh.edu (ARTHUR I. LARKY)
Subject: Re: 17,000 + tubes for counting....
To: Old Tube Radios <boatanchors@theporch.com>

Dexter Francis wrote:
(snip)

>For a very educational browse and some great photos, check out the
>University of Pennsylvania's 50th Anniversary Exhibit on the ENIAC at:
>
><http://www.library.upenn.edu/special/gallery/mauchly/jwmintro.html>
>
>I particularly like the shot of the accumulator decade plug in unit.
>

>Does any one know exactly which types of tubes were used in these units?

Twin triodes - 6sn7's, I think. I'll look it up next time I'm over at my old office.

Each accumulator had ten ten-tube decade ring counters whose the operating point was set so that only one tube could have its "ONE" side active. All others had to be in the "ZERO" state because there was not enough plate current available. Also, the tubes were heavily derated in filament and plate voltage to improve their reliability. "Experts", such as those at major electronics concerns, said that something with that many tubes could not work. So the 'experts' use analog computers and mechanical calculating devices. The arithmetic was 10's complement.
Art K3HBA

Art K3HBA

Message-ID: <367E3443.7FD5@worldnet.att.net>
Date: Mon, 21 Dec 1998 06:42:59 -0500
From: John Dilks <oldradio@worldnet.att.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: 17,000 + tubes for counting...."From Dits to Bits"
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Dexter Francis wrote:

> While it may not qualify as radio, it's got to be the Titanic of vacuum
> tube based equipment.
> For a very educational browse and some great photos, check out the
> University of Pennsylvania's 50th Anniversary Exhibit on the ENIAC at:
-----snip-----

to all,

I had the honor to meet and introduce John Mauchley (and his wife Kathleen) in 1977 at the Personal Computing Show, PC'76, in Atlantic City. He was quite a man, humble and yet dignified. He spoke of the Einac project.

At the next year's show, PC'78 in Philadelphia, a new book was introduced: "From Dits to Bits." Written by a Ham who was a technician on the entire project. It speaks of all the hams (there were many) and has a unique outlook on the entire project. The book continues into the UNIVAC era. The author died from cancer the month before the show.

Dr. Mauchley has since passed away, but Kathleen has remarried and still lives in the Philadelphia area. (she was younger -- and also was one of the first woman programmers [on the Einac project.])

--

73' John Dilks, K2TQN

Please visit my OldRadio Museum
<http://www.eht.com/oldradio/museum>

Webmaster for the Antique Wireless Association
<http://www.ggw.org/awa> Click on "Page 2"

--and--

for the New Jersey Antique Radio Club
<http://www.eht.com/oldradio>

-

Date: Mon, 21 Dec 1998 08:13:23 -0500
From: "James C. Garland" <4CX250B@miavx1.acs.muohio.edu>
Subject: Re: HRO-500 (II)
To: Old Tube Radios <boatanchors@theporch.com>
Cc: boatanchors@theporch.com
Message-id: <3.0.1.32.19981221081323.0069f938@miavx1.muohio.edu>
MIME-version: 1.0
Content-type: text/plain; charset="us-ascii"

>I know also the serial number: 75 1257. Please, could somebody tell me
>which of the three series (as somebody told me) is this receiver?.

>-----

> 73 EB5AGV / EC5AAU
> JOSE V. GAVILA

Hi Jose,

Congrats on your new HRO-500. I think you'll enjoy the receiver very much. Although it is all solid state, it surely qualifies as an honorary boatanchor. It is built just like a vacuum tube radio, except that transistor sockets replace the tube sockets. It is all point-to-point wiring and thus straightforward to get at the components. It weighs a ton.

With respect to serial numbers, the first two digits (75 in your case) specify the series. Here are the series and (approximate) dates of manufacture:

Series	Year
75	1964
88	1966
102	1967

122 ???
140 1972

>From what I understand, the largest circuit changes occurred between series 75 and 88, and there were some factory bulletins specifying most of the upgrades. Since you have series 75, you may want to install some of the upgrades after you get your radio working well. My radio is a series 102, and I'm afraid I don't have the upgrade bulletins. You can probably get them from someone on the List.

There are a couple of trouble spots in the HRO-500. One of them, curiously, is the crystal calibrator, which tends to have difficulty starting. One of the recommended mods is to use a larger emitter bypass cap in the oscillator in order to raise the gain. The capacitor is C127, and the original 0.1uF should be replaced with a 1-10uF

The biggest problem with the HRO-500 pertains to all series, and that is audio distortion in SSB and CW. An article in Electric Radio a couple of years ago discusses the problem and recommends a modification to the product detector. I've installed the modification and it makes a slight improvement, but not much. Nobody seems to know just where the distortion comes from, but in my opinion it is a design problem associated with interaction between the AM detector and the product detector. Basically, the AM detector interacts with the tuned circuit in the product detector transformer. This interaction makes proper alignment of the product detector tuned circuit very difficult, if not impossible. You'll discover the problem for yourself when you go through the alignment section of the manual. One of these days, I'm going to dig into this problem in detail, because the distortion spoils the CW and SSB reception for me.

Speaking of alignment, the HRO-500 synthesizer has a reputation for being very finicky and difficult to align. I think this reputation is not deserved. In my experience, the synthesizer is very reliable and easy to align. Just follow the manual and you won't have any trouble. The synthesizer is actually very simple, and just simulates the HF crystal oscillators. The radio is tuned with a conventional VFO.

The most difficult part of alignment is adjusting the ferrite pot tuned circuits that control the radio's selectivity. I didn't have particular difficulty doing this alignment, but one has to be careful. I think a sweep generator is helpful in this part. I use an HP 8601A sweeper. My advice is to leave them alone if you don't have a good signal generator. If you get noticeable sideband rejection when going from USB to LSB then the alignment is probably okay.

Replacing the dial lamps is a bit tricky. If yours are burned out, let me know and I'll send you the step by step instructions. The first thing to do with your radio is to reseal all the transistors in their sockets. This

step alone is likely to cure most of the problems with the radio.

73,

Jim Garland W8ZR

End of BOATANCHORS Digest 2345

>From ???@??? Tue Dec 22 13:18:27 1998
Message-Id: <199812212347.RAA12777@sco.theporch.com>
Date: Mon, 21 Dec 1998 17:47:06 CST
Subject: BOATANCHORS digest 2346

BOATANCHORS Digest 2346

Topics covered in this issue include:

- 1) Re: Crystals for the Axis...more
by "Roberta J. Barmore" <rbarmore@indy.net>
- 2) Looking for VT1 tube characteristics.
by Yann Conan <yconan@nordnet.fr>
- 3) Mr. Quackkelstein's Shop
by Dick Dillman <ddillman@igc.apc.org>
- 4) Problem with Hammarlund HX-50 Xmitter
by Jack Harper <jharper@bsi2000.com>
- 5) RE: DX-100 audio distortion
by Ed Sieb <esieb@gmsiworld.com>
- 6) RE: DX-100 Transformer?
by Ed Sieb <esieb@gmsiworld.com>
- 7) Ranger trouble
by Bob Roehrig <broehrig@admin.aurora.edu>
- 8) DX-100's, Apaches, et al...
by Ed Sieb <esieb@gmsiworld.com>
- 9) Quartz Crystals for the Axis
by "Gretchen" <rbrunner@gis.net>
- 10) YE OLDE XTALS FOR SALE
by JOHN_SEHRING.parti@ecunet.org (JOHN SEHRING)
- 11) more RT-3 variants
by Pete McCollum 21-Dec-1998 1231 -0600 <mccollum@ssdevo.ENET.dec.com>
- 12) RUGGEDIZED ('W' SUFFIX) TUBES
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 13) RE: WTB BA-270
by "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
- 14) Re: Crystals for the Axis...more

- by Richard Loken <richardlo@devax.admin.athabascau.ca>
15) FS: Tektronix 422 Scope
by "Richard Solomon" <w1kszt@tiac.net>
16) FS: Tektronix Scope Probes
by "Richard Solomon" <w1kszt@tiac.net>
17) Re: WTB BA-270 batteries
by "Rudolf H. Salomon" <rhs@pacbell.net>
18) Re: Crystals for the Axis...more
by gwoods@albany.net (Gary Woods)

Date: Mon, 21 Dec 1998 08:22:16 -0500 (EST)
From: "Roberta J. Barmore" <rbarmore@indy.net>
To: Old Tube Radios <boatanchors@theporch.com>
cc: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Crystals for the Axis...more
Message-ID: <Pine.SUN.3.96.981221075326.6957A-100000@indy3>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Ummm, er...hello, gentlemen:

Here's a notion which is possibly checkable by those with better research skills than mine--

What class of individuals would most need very small, simple, fixed (and well-defined) frequency transmitters? Spies would be my guess. (German "spy" transmitters I have seen mention of tended to be one-tube jobs that made Fred Sutter's "QSL" rigs look huge).

The whole idea of ensuring (or attempting to ensure) the Axis powers would end up with flawed crystals sounds very OSS-y to me; it is exactly the kind of plausible but iffy card-playing thing they were fond of.

And German use of variable oscillators in comms gear for uniformed services makes it sound *more* likely. Electronic intelligence/comms intercept in a conventional military context is fairly straightforward; sheesh, the Brits put it on what amounted to a mass-production basis at Bletchly Park & associated intercept stations! You don't need chirpy sigs to find the other side with that sort of set-up--you know what freqs *your* side is on, civvy traffic's not too hard to sort out and what's left is what you're after.

But how do you tell if a weak, piffling little CW signal is The Bad Guys, some fourth-rate civvy station in a country not playing Global War, or a ham from a non-combatant nation? Well, gee, hams and commercials probably had all the xtals they were gonna get with a war on; but folks equipping spies will need *new* quartz. How wonderfully sneaky if they could be "tagged" in some way....

Did it work? *Was* that the idea? I dunno. Sounds to me like another long chance that might not have panned out. Can anyone find out more?

(The whole "crystal war" with each side sparring to sew up sources of supply in S. America would be a wonderful background for an historical spy novel, I think. Wonder what other chancey technology projects there were we never heard about--the only ones that get any press are the things that paid off big, like the Manhattan project, jet engines, and digital computers).

73,
--Bobbi

KB9GKX "RJ" rbarmore@indy.net Roberta J. (Bobbi) Barmore
FISTS #3388 * G-QRP #10001 * ARRL * RSGB * WIA
Appreciator Of Vacuum-Tube Ham Gear and Vintage Keys

Message-ID: <367E60F0.16B4@nordnet.fr>
Date: Mon, 21 Dec 1998 15:53:36 +0100
From: Yann Conan <yconan@nordnet.fr>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Looking for VT1 tube characteristics.
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

Bonjour les amis !

A friend of mine has a VT1 tube (new), made by General Electric in 1916, he is looking for the characteristics of this tube. The VT1 is also known as a CW933. According to several tube guides, the 203B characteristics are valid for the VT1, does really VT1 = 203B ?

Thanks very much in advance for any info.

Merry Xmas to all / Joyeux Noel a tous.

73 de Yann, F5LAW.

Date: Mon, 21 Dec 1998 08:03:51 -0800 (PST)
Message-Id: <2.2.16.19981221075955.5007d118@pop.igc.org>
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
To: Old Tube Radios <boatanchors@theporch.com>
From: Dick Dillman <ddillman@igc.apc.org>
Subject: Mr. Quackkelstein's Shop

Greetings, fellow true believers. I'm checking back into the list after a week or so in The Netherlands. Next to a good US hamburger I missed the list most! I hope you didn't wreck the place while I was gone.

I know you'd rather hear about the dull & boring meetings I attend while I was abroad but instead I write to report on my radio acquisition adventures, something I always try to make time for on these trips.

Case in point: the shop of Mr. P.M. Quakkelstein in Vlaardingen in the south of Holland near The Hague. Brothers and sisters, should you find yourself in Holland with some money in your pocket and radio lust in your heart a consultation with Mr. Quakkelstein is highly recommended.

Mr. Quakkelstein's shop presents a neat on orderly front to the typically narrow Dutch street on which it is located. Spotlessly clean plate glass windows and the simple "P.M. Quakkelstein" lettered neatly across the front make it look like the other neat, orderly shops surrounding it. But step inside and you'll feel immediately at home. Like all good surplus shops there is hardly room to move. Radios and all manner of other interesting stuff are stacked from floor to ceiling along both rows and down the center. One is reduced to the classic "sideways shuffle" that all radio fiends know in many areas of the shop.

But in contrast to the proprietors of US radio junk stores, all of whom seem to have been continuously pissed off since 1949, Mr. Quakkelstein seems genuinely happy in his work and glad to see you. He presides over the shop with his formidable but equally friendly wife and, like all good surplus dealers, seems to carry a mental inventory of exactly what he has and where it may be located in the seemingly disorganized shop.

There is a storage area of sorts in the shop immediately next door. Once again there is barely room to pass down the isles. But the real core of the operation is... "the warehouse". On my visit it was explained to me in hushed tones that Mr. Q was at the warehouse but if I wanted to turn right at the next corner, proceed down the winding street, then left at the church I might visit him at this hallowed location. So I did.

Ah, brothers & sisters, here was a scene such as I have never seen before. I stepped through the open doors of a narrow little Dutch building - constructed in the 1700s as it turned out! - and was greeted with more piles of boxes, crates and bales of military radios and accessories of every description and type. The place seemed to be empty but voices came from above. Looking up past the 18th century hewn beams I saw a trap door in the ceiling and a trap door in the ceiling above that and at least one more above. Down through the doors a hoist hung with a metal basket on its hook as a means of moving equipment between floors.

Soon Mr. Q descended the stairs in animated conversation with other

customers buying all manner of interesting stuff. I explained my quest and soon we were rooting through the piles to find what I needed. We dragged all of my purchases back to the shop and piled them outside. I added some more items from the shop, paid the bill, thanked Mr. Quakkelstein and his wife for their hospitality and loaded the stuff into the Mercedes van we had pinched from the Greenpeace office earlier in the day.

I'm in the process of carrying my treasures back to San Francisco as checked baggage. I may tell you that the customs guys at JFK certainly wanted to look in "all those boxes" when I arrived in New York last night. But after I opened one of the radios and nothing but tubes and coils were revealed within they dismissed me as the harmless wacko that I am and let me pass.

What? Oh! Okay, here's what I got:

RT-86 set with a NIB 24V power supply, shock mount and cables

Two unit remote control system for the RT-86

Canvass bag with manuals, full spare parts box, antenna, antenna mount, microphone and earphones for RT-86

LS-166 speaker for RT-86

Two unit remote control for AN/GRC-9

Heavy duty 6V solenoid relay for use in another project

The total bill was NLG 280 or about \$155. Of course I'm getting reamed for excess baggage charges but what the hell. I can't wait to get all this stuff home, unpacked and working. And I plan to have a nice, operational, remote controlled RT-86 - AN/GRC-9 set up at the next Military Radio Collectors Group meet.

P.M. Quakkelstein
Elektronische Materialen
Westhavenplaats 28
3131 BT Vlaardingen
The Netherlands
Tel. 31-10-4344523

Skyking says check it out.

Dick Dillman
<ddillman@igc.apc.org>

WPE2VT W6AWO
Collector Of Heavy Metal:
Harleys, Willys and Radios Over 100lbs.

On Foreign Assignment on Long Island, NY

Message-Id: <3.0.1.32.19981221091455.006a53a0@mail.bsi2000.com>
Date: Mon, 21 Dec 1998 09:14:55 -0700
To: Old Tube Radios <boatanchors@theporch.com>
From: Jack Harper <jharper@bsi2000.com>
Subject: Problem with Hammarlund HX-50 Xmitter
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"

What a strange, surreal weekend -- an impeached president, bombing of Iraq during Ramadan, James ('this is wahr') Carville spewing hate on TV -- is good to retreat to the basement bunker on a very cold (-10F) and snowy Sunday afternoon to work on BAs...

I have been slowing coaxing a Hammarlund HX-50 transmitter back to life. I cleaned it up very nicely with Hoppe's oil (comprised, apparently, of kerosine, bannana oil, and a smitch of ammonia -- I sit happily ensconced surrounded by hordes of hot vacuum tubes emmanating fumes). I have replaced the old two-line power cord and all of the non-disk capacitors, and have checked all and replaced about half of the tubes.

The unit was calmly delivering about 65-watts of output to my Heath Cantenna dummy load (bubble bubble bubble) -- and suddenly the transmitter simply quit -- no fritzes or pops or smoke or anything like that -- just zero output. I did see the PA Cathode amp-meter briefly oscillate back and forth (waggle waggle) a few times before it went dead.

Symptoms are simple: There is no RF Drive other then the idle current of about 60-mils. The manual says bump the RF drive during CW tuneup up to about 100-mils on the PA Cathode meter -- but it does not advance at all -- just sits there staring at me with 60-mils. Output on the wattmeter to the dummy load is now Zero. Rats.

I have not yet checked voltages, resistances -- that is, I assume, the logical next step. I would not expect a bad tube as they are almost all new.

Ideas?

Any and all advice and comments greatly appreciated.

Best Regards for the Christmas Season...

Jack, W0YJ (Friend to all things Hammarlund)

Jack Harper
303-231-9095

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Message-ID: <01BE2CD6.5F42F640@esieb.gmsiworld.com>
From: Ed Sieb <esieb@gmsiworld.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: DX-100 audio distortion
Date: Mon, 21 Dec 1998 11:38:00 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

DX-100 grunge. This is caused by poor regulation of the power supply in several areas:

The bias supply consists of a string of resistors fed of a separate bias circuit. This string typically feed "point J" and some other points... In normal operation of DX100, the modulator tubes are being tickled into grid current, but there is no form of bypassing from center tap of driver transformer, and as a result, the rectified grid current gets kicked up and down the bias divider string (feeding driver, modulators and final). The normal result is that as you modulate fully, the bias in the driver, modulators and finals gets forced more negative (more towards cut(c)off), causing grid drive to drop towards zero and the RF power to decrease dramatically

with modulation.

The center tap (point "J") of driver transformer must be clamped with a 33V/5W zener diode, bypassed with a 250-1000mF/50V electrolytic. If running 250V on screens (highly recommended), bias voltage will be around 22V. Tetrodes run cleaner with lower screen voltages with regards to intermod products.

Ed,, VA3ES

Message-ID: <01BE2CD6.F0E1B5A0@esieb.gmsiworld.com>
From: Ed Sieb <esieb@gmsiworld.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: DX-100 Transformer?
Date: Mon, 21 Dec 1998 11:42:06 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

On Sunday, December 20, 1998 10:52 PM Dave Mayfield KB9BNR asked:
> Anyone know if an Apache transformer will work?? as a sub for the dx-100 HV
> transformer?

Yes. Close enough.

Ed VA3ES

Date: Mon, 21 Dec 1998 11:35:39 -0600 (CST)
From: Bob Roehrig <broehrig@admin.aurora.edu>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Ranger trouble
Message-ID: <Pine.ULT.3.96.981221112953.20157C-1000000@admin.aurora.edu>
MIME-Version: 1.0
Content-Type: TEXT/PLAIN; charset=US-ASCII

Have recently acquired a Johnson Ranger (early version without bias supply). I reconstructed the audio chain pretty much per the WA1HLR mods in that I replaced the driver xfmr with a phase inverter. Waveform is great looking at the 1614 grids with a scope. However I can't get more than about 75% modulation with a 1Kc sine wave. All tubes check great. DC parameters are normal. Turning up the gain beyond a certain point gives me more signal at the 1614 grids but no more signal at the plates. My guess is that there just ain't

enough power available in the modulator stage. Is this common?

"Nostalgia is a thing of the past"
E-mail broehrig@admin.aurora.edu 73 de Bob, K9EUI
CIS: Data / Telecom Aurora University, Aurora, IL
630-844-4898 Fax 630-844-5530

Message-ID: <01BE2CE1.BDD88520@esieb.gmsiworld.com>
From: Ed Sieb <esieb@gmsiworld.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: DX-100's, Apaches, et al...
Date: Mon, 21 Dec 1998 12:59:23 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset="us-ascii"
Content-Transfer-Encoding: 7bit

Some more comments on the DX-100 (and Apache too)...

The modulation transformer is approximately 3:1 ratio, purposely chosen to provide a degree of clipping in the modulator stage. The actual transformer is quite flat from 80 Hz to approx 12 KHz, with some degradation either side. It's quite usable from 50 Hz to about 14,000 Hz. But down about 3-5 dB. The problem is the way the mod. iron is wired. There is a trick one can perform which is to re-wire the transformer as an autotransformer, for a much better match. This a modulation auto-transformer connection. Rather than having separate primary and secondary windings, you take the 500ohm tap on the secondary and connect the tap to one of the modulator plates, and the bottom end of the secondary that went to B+ is disconnected. This provides a much lower impedance for the modulator tubes to look into, which allows them to deliver more power, and they operate much cleaner looking into a lower impedance load because of a closer impedance match.

I've been having an on-going correspondence with other AM'ers who also own DX100 (and Apaches) about mods and mod info, and have collected a whole pile of great DX100 (and Apache) mod info. This resource consists of every Apache and DX100 mod ever printed in CQ, QST (Hints & Kinks) and 73 mags, as well as most mods performed by many

hams

over the years and documented. The "piece-de-resistance" is the complete mod seminar and

instructions by Tim Smith, WA1HLR, on the Apache and DX100. This is in audio format, 90 min.

stereo cassette. This last item, the "Tim-Tron Mods" are the last and best of all mods -

best results, best performance, and actually the easiest and simplest as they're done in stages,

each mod stage allowing the rig to go back in service after each basic mod. The rig is not

permanently on the bench until the whole mod is done. You can do each basic step in one evening,

and still put the rig back on the air between each advancing stage of modification. You can do

one or do them all and at the end of the last one, you have a high-performance, Turbo-modulated,

Hi-Fi transmitter. Very neat and interesting.

This "Radio Amateur's AM Notebook" comprises several sections: DX-100/Apache mods, Asymmetric modulation theory and practice, including circuits, Ultramodulation theory and practice

with circuits, negative-peak clipping theory, etc., plus historical material on W3PHL and others

who developed these techniques. Also, there's the "Timtron Tape": a seminar by Tim, WA1HLR on

mods for the DX-100 and Apache

The real problem is the time required to get the printed stuff copied. And then there's postage. I'm

quite willing to do all this because this resource is so great, that I feel it's worthwhile doing and I

believe the BA/AM community deserves this stuff. I'll try and allot some time in the new year get it

done, at least in stages. I expect the finished, ready copies to be available around February.

Anyway, if any of this is of interest to those of you who have DX-100's or Apaches, I can send

you a tape dub right now, but you'll have to wait a little while for the printed material. Just let

me know.

73, de Ed VA3ES/VE2BAQ (that's Boat Anchor Quality)

~~~~~  
Ed Sieb, VA3ES esieb@gmsiworld.com

P. O. Box 8377, Ottawa Terminal, Ottawa, Ontario, K1G 3H8

613-738-8924 (H) 613-599-5161 (W)

AMI #529 Canadian Division Director.  
Member - Radio Club of America, QCWA, AWA  
Net Manager - Canadian Boat Anchor Net (3745 Kcs)

~~~~~

Message-Id: <199812211804.NAA04002@home.gis.net>
From: "Gretchen" <rbrunner@gis.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Quartz Crystals for the Axis
Date: Mon, 21 Dec 1998 12:50:59 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 8bit

Arthur Bauer in his book "Funkpeilung als alliierte Waffe gegen deutsche U-Boote 1935-1945" makes the same points.

"Damals schien es ausgemacht, da Frequenzstabilitt im Sende- und Empfangsbetrieb nur mit Quarzen gewhrleistet werden kann. Der Rohstoff kam in Europe kaum und dann nicht in hinreichender Qualitt vor, so daman Lieferungen aus Brasilien angewiesen war. Whrend Deutschland auf diesem Gebiet jetzt nahezu unabhngig war, bentigen die Alliierten ganz Schiffsladungen fr ihre militrischen Zwecke, und man kann sich gut vorstellen, wie folgeschwer es war, als die Deutschen 1942/43 einen amerikanischen Frachter mit Quarzmaterial torpedierten."

bersetzungen / translation

It seemed at that time that frequency stability only with quartz was possible. The raw quartz came hardly at all and in poor quality, and was dependent on Brazil. Germany was independent of this problem, but the Allliierte needed whole ship-loads for military purposes, and one can understand the seriousness when the Germans in 1942/43 torpedoed an American freighter loaded with quartz.

He also notes that between 1941 and 1945 we produced approximately 30 million quartz crystals. Germany, for comparison, between 1940 and 1945 produced approximately 0.9 million.

It may be that Germany made a virtue out of necessity (no quartz) by developing stabile VFO's, but it served them well, and eliminated the logistic problems of getting the correct crystals in the correct places.

Richard Brunner, AA1P. rbrunner@gis.net

MIME-Version: 1.0
Content-Type: text/plain; charset="US-ASCII"
Content-Transfer-Encoding: 7bit
Date: Mon, 21 Dec 1998 14:03:22 -0500 (EST)
Subject: YE OLDE XTALS FOR SALE
To: Old Tube Radios <boatanchors@theporch.com>
From: JOHN_SEHRING.parti@ecunet.org (JOHN SEHRING)
Message-ID: <9812211403.aa00528@pcusa01.ecunet.org>

To: boatanchors@theporch.com

I've got 3 large xtals.

Use banana plugs spaced with standard dual banana spacing. Measure 1.5" square 1/2" thick, 4 screws holding it closed. Opened up have quartz slab & matching brass plate inside but no spring so must be missing. One is marked "Bud" & has small knurled knob to vary pressure (frequency). Marked 1919, 2035 & 3640 kHz.

\$3 plus postage.

-John Sehring (4:22 pm Sat, Dec 19, 1998 at Custer, SD USA) ucc wb2eqg

Message-Id: <9812211932.AA03156@us3rmc.cxo.dec.com>
Date: Mon, 21 Dec 98 12:32:19 MST
From: Pete McCollum 21-Dec-1998 1231 -0600 <mccollum@ssdevo.ENET.dec.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: more RT-3 variants

For those that are interested, we now know about two more variants of the RT-3 transmitter.

The four known variants are as follows:

RT-3

The standard model, tunes 3-22 MC, just like a T-784/GRC-109 but without the burst-coder connector.

RT/A-3, "part of BN-2"

An RT-3 modified to tune 1500-1800 KC in a single band. Also has a modified crystal socket that allows a crystal to be installed with the lid in place.

My guess is that it's intended to xmit a carrier that can be heard by an aircraft beacon receiver, such as an ARN-6 or ARN-59. Just the thing for getting supply-drops in enemy territory.

RT/D-3

An RT-3 modified to include the burst-coder connector, so it's basically the same as a T-784.

RT/E-3

An RT-3 modified to tune 3-30 MC instead of 3-22 MC.

I'm looking for ideas as to why the 22-30 MC band was added. One idea is that it's for shorter-distance comms, when you'd rather not have half the world hear your signal ???

If anyone has anything to add, please contact me!

Pete

Saipan59@juno.com

Date: Mon, 21 Dec 1998 14:47:34 -0500
From: "ROBERT W. DOWNS" <RWDowns_WA5CAB@compuserve.com>
Subject: RUGGEDIZED ('W' SUFFIX) TUBES
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199812211448_MC2-645B-6CA8@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Group,

According to a (Navy) Radio and Sound Bulletin article that I read, the 'W'

suffix tubes were supposed to be mechanically more rugged (against blast/shock damage), but with all the same electrical characteristics. =

With glass tubes like the 5R4, 0d# and 807, the result was a much thicker= glass envelope and a base which ran 1/3 to 1/2 of the way up the envelope= . =

Not sure just what the differences were in the metal octals, but it was internal.

73,

Robert Downs

WA5CAB

Houston, Tx

Date: Mon, 21 Dec 1998 14:47:31 -0500
From: "ROBERT W. DOWNS" <RWDDowns_WA5CAB@compuserve.com>
Subject: RE: WTB BA-270
To: Old Tube Radios <boatanchors@theporch.com>
Message-ID: <199812211448_MC2-645B-6CA5@compuserve.com>
MIME-Version: 1.0
Content-Transfer-Encoding: quoted-printable
Content-Type: text/plain; charset=ISO-8859-1
Content-Disposition: inline

Clare & Group,

Although I'm a member, I've never made it to Rochester, but I'd bet the t=he
young ladies with the trailer load of batteries were from S&G Electronic.=
=

I haven't dealt with them since 1994 but their address was:

618 S. 62nd Street
Philadelphia, PA 19143
(215)474-7663

The area code may have changed. I bought batteries and a wooden storage cabinet from them. Wish I'd bought several of the cabinets.

73,
Robert Downs
WA5CAB
Houston, TX

Date: Mon, 21 Dec 1998 13:16:08 -0700 (MST)
From: Richard Loken <richardlo@devax.admin.athabascau.ca>
Subject: Re: Crystals for the Axis...more
To: Old Tube Radios <boatanchors@theporch.com>
Cc: Old Tube Radios <boatanchors@theporch.com>
Message-id:
 <Pine.PMDF.3.95.981221130412.541067359B-1000000@devax.admin.athabascau.ca>
MIME-version: 1.0
Content-type: TEXT/PLAIN; charset=US-ASCII

On Sun, 20 Dec 1998, Larry Kayser wrote:

> volume transmitters that had crystals, I have some samples in my collection

> here. The really neat ones have little knobs that change the pressure so
> the operator could vfo around a bit, about 5 KC max. The quartz
> interdiction project was well documented, if you look you will find....
>
> Your opinion as to the impact level of supply over design philosophy is
> interesting, opinion is excellent but not relevant to this offering.

In this particular argument, opinion holds as much weight as the original statement because the original statement can only be regarded as folklore, rumour, or speculation since no sources were referenced that could assure an uninformed reader such as myself that the crystal supply interception story was a documented fact. An observer reading such a story must treat it as undocumented and then has license to say that the facts about German design norms and the normal procurement/inspection/manufacturing process speak against the likelihood of the tale being accurate.

Counter arguments (as above) are welcome but sulking about the rebuttal being rebutted is not part of the formula.

Richard Loken VE6BSV, Systems Programmer - VMS
Athabasca University
Athabasca, Alberta Canada
** richardlo@admin.athabascau.ca **

Message-Id: <199812211707.MAA21543@mail-out-2.tiac.net>
From: "Richard Solomon" <w1ksz@tiac.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: Tektronix 422 Scope
Date: Mon, 21 Dec 1998 17:00:28 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

Just got a newer one so this is no longer needed.
Two channel, 15MHz solid-state scope.
One channel does not work, but otherwise works
OK. \$75 plus packing & shipping costs from 02421.
UPS will no longer insure against damage unless
they pack it, guess the BS Gorillas are really running
amock.
73, Dick, W1KSZ

Message-Id: <199812211707.MAA21550@mail-out-2.tiac.net>
From: "Richard Solomon" <w1ksz@tiac.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: FS: Tektronix Scope Probes

Date: Mon, 21 Dec 1998 17:02:38 -0500
MIME-Version: 1.0
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

I have a few probes that I don't need anymore. Please add \$3
for postage for each one you want.

P6006 10X BNC	\$17	(Have 2)
P6008 10X BNC	20	(580 series type)
P6009 100X BNC	30	(Never saw one of these)
P6027 1X UHF	10	(Needs screw-on tip)
P6028 1X BNC	17	

Still looking for P6105 and/or P6106 Probes.

73, Dick, W1KSZ

Message-ID: <367ECFBD.70D7@pacbell.net>
Date: Mon, 21 Dec 1998 14:46:21 -0800
From: "Rudolf H. Salomon" <rhs@pacbell.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
CC: boatanchors@theporch.com
Subject: Re: WTB BA-270 batteries
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

at least have one battery to use as a model for a home-brew battery.

>

> By the way, there used to be two young ladies who would show up at the AWA
> conference in Rochester every Sept with a U-Haul trailer load of surplus
> military batteries. They weren't there this year, at least on Thurs. when I
> was there. Do any of you know the name or contact info for a company or
> individual who has surplus batteries?

>

> Merry Christmas and Happy New Year!

>

> Clare Owens N2RJB

S&G Electronics, they have a web site at:
<http://www.voicenet.com/~sgphoto/batteries.htm>

Rudy salomon

From: gwoods@albany.net (Gary Woods)
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Crystals for the Axis...more
Date: Mon, 21 Dec 1998 23:44:55 GMT
Message-ID: <3687dd05.39868946@mail.albany.net>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

>In a message dated 98-12-20 13:09:39 EST, kayser@rideau.net writes:

>

>> Interestingly, a second level of intrigue in this work, was that certain
>> quartz crystals, not very large ones, were intentionally allowed to get to
>> the Axis, these crystals had a fault in the form of a distinctive "chirp"

I _know_ I'm going to regret this, but when I was building 6AG7-807 rigs,
and trying to get a Mark II make more AM than FM, I found chirp to be a
function of the oscillator circuit, not so much the crystal. Of course, I
probably had "good" JAN crystals to use perhaps hand-trimmed by the
scouring powder and glass method.... I'd love to hear of some source
material for this.

I do know that the intelligence/ECM folks were often clutching at the
smallest of advantages, so it wouldn't have taken much for them to try this
(Lets not restart the "LO radiation" thread again!).

--

Gary Woods O- K2AHC Public keys at www.albany.net/~gwoods, or get 0x1D64A93D via
keyserver

gwoods@albany.net gwoods@wrgrb.com

fingerprint = E2 6F 50 93 7B C7 F3 CA 1F 8B 3C C0 B0 28 68 0B

End of BOATANCHORS Digest 2346
